

Vermont Environmental Report

PUBLISHED MONTHLY BY THE VERMONT NATURAL RESOURCES COUNCIL, A NON-PROFIT CITIZENS' CONSERVATION ORGANIZATION SUPPORTED BY MEMBERSHIP DUES AND CONTRIBUTIONS. VNRC, 26 STATE STREET, MONTPELIER--VERMONT, 05602. (802) 223-2328. CHAIRMAN: DAVID R. MARVIN; EXECUTIVE DIRECTOR: SEWARD WEBER; EDITOR: NAT FROTHINGHAM.

Reidel Calls for Action in this Assembly to Stem Neglect of Vermont's FORESTS!!

In the following "Guest Editorial", Dr. Carl Reidel calls attention to the deplorable condition of Vermont's forest resource. Dr. Reidel has impeccable credentials. He is known to Council members as Vice-Chairman of the VNRC Board of Directors. He is, in addition, Director of the University of Vermont Environmental Studies Program, Vice-Chairman of the Green Mountain Chapter of the Society of American Foresters, and National Vice-President of the American Forestry Association.

VERMONT'S FORESTS . . . A Neglected Heritage

As we look ahead to the Third Century of Vermont's independence and subsequent statehood, there is one feature of our stewardship of our natural resources that ought to concern us deeply, and that is the deplorable condition of our forests. For a State that pictures a pine tree on its seal, it is hard to understand how we can continue to neglect the management of our most precious natural resource. And worse, we are conservation hypocrites! We happily cite our conservation heritage from the early writings of George Perkins Marsh and we proudly point to enlightened legislation such as Act 250, yet we fail to practice what what we preach.

Strong words? Not at all. The facts are well known, clearly stated in the Agency of Environmental Conservation's 1972 report, **Vermont's Forests**, and in many of the studies by the U.S. Forest Service's

Northeast Forest Experiment Station. The Vermont Natural Resources Council and the Society of American Foresters have repeatedly called for action. Yet we continue to squander a natural resource vital to Vermont's economic future.

The situation is critical. Seventy-five percent of the land in this State is in commercial forests—4.5 million acres—contributing upwards of \$200 million annually to the gross state product. Most of these forests are poor quality, producing considerably less than their potential. Net annual growth is 21 percent less than the average for New England forests because of insects, disease, and lack of management. Much of what is grown—some 2 million cords of low-quality cordwood—remains unused for lack of markets. In sum, our forests are a mess by any standard of good forest management.

And the people are the losers. Over 75 percent of Vermont's commercial forest land is owned by

carl reidel calls for assembly action...

77,000 small owners of which 58,000 own less than 50 acres apiece. This scattering of forest holdings increases daily as excessive property taxes and inadequate profits force subdivision into smaller and smaller tracts.

We don't know all the answers, but some are obvious. Land-use planning and property tax reform are essential. A fair tax, based on forest income, is the only answer, with land-use planning to insure long-term management. If these reforms are not enacted this year, we may lose our last chance for a viable forest industry because land subdivision is irreversibly fragmenting forest land ownership into unmanageable small tracts. Consider these figures. Of all forest land sales in 1975, thirty percent were in tracts of 40 acres or less, compared to only 18 percent of such sales on the average for the previous six years.

We must also begin funding our conservation agencies beyond caretaker levels. The Agency of Environmental Conservation is woefully understaffed and underfinanced, unable to prepare long-range management plans for State forests or to provide essential assistance for private landowners. Fluctuating budgets, constantly eroded by inflation and arbitrary cuts by short-sighted politicians, are destroying an Agency staffed by some of the best professionals in New England.

VERMONT ENERGY OFFICE RELEASES REPORT ON HOME INSULATION AND WOOD AS A FUEL FOR HOME HEATING

The Vermont State Energy Office has released a report that highlights the need for greater public understanding of the need for home insulation and that points to the greater use by Vermonters of wood as a primary source of fuel for home heating.

The Energy Office describes the "residential sector" as the largest consumer of energy after transportation. It goes on to say that many Vermonters have apparently overestimated the effectiveness of their present home insulation in terms of today's energy costs.

New initiatives in forestry research and extension education are equally needed. An agriculture-dominated Cooperative Extension Service has long ignored the needs of forest owners for up-to-date information, providing less than one man-year of direct forestry extension assistance. A recent U.S. Forest Service study of Vermont forest landowners revealed that 57 percent of these owners do not know who to contact for forest management assistance. And an underfunded UVM School of Natural Resources is unable to launch needed research and continuing education programs. New programs of applied research, workshops, field demonstrations, and modern media informational systems are essential. In cooperation with state and private agencies, Extension agents could help to organize management and marketing cooperatives to strengthen landowner forest management.

All this will take leadership at the highest levels, and a major new commitment statewide. We mortgaged the State for an Interstate highway system far beyond our needs. Why are we reluctant to invest in the management of the forest resources that could be the basis of our future economic security? Unless we enact needed tax reform and land-use planning and provide a substantial increase in funding for forest management **this year**, we will foreclose our best opportunity to invest in Vermont's future.

In a related matter, the Energy Office found that Vermonters are using wood as a fuel for home heating in increasing numbers. In the 1970 Census, wood was listed as the main source of fuel for home heating in one percent of Vermont households. Today that figure stands at 6.7 percent of those surveyed. The Energy Office reports that the greatest use of wood is in middle income homes where incomes are between \$10,000 and \$19,000 per year.

SALES OF GASOLINE as a fuel for motor vehicles in Vermont are following the national pattern of accelerated growth. An estimate from the Federal Highway Administration predicts that gasoline sales in Vermont for 1976 will show an increase of 5.6 percent for 1976 over 1975. This is an accelerated rate of sales compared to the three years between 1973 and 1976. In those years, sales in Vermont rose by an average of 3.8 percent.

WATER QUALITY

What follows is "Part Two" of an exchange between VER Editor, Nat Frothingham, and members of the "Sewage Task Force" at the Institute for Local Self-Reliance in Washington, D. C. In this series, the Vermont Environmental Report will be referred to as VER and the Institute for Local Self-Reliance will be referred to as ILSR. (This discussion may not be used or reproduced in any form, without the express, written consent of the Institute for Local Self-Reliance, 1717 18th Street, NW, Washington D.C., 20009.)

5. Shortcomings

VER: What are the principal shortcomings of the present water-based sewage treatment efforts?

ILSR: Even by its own standards, the current wastewater treatment system in this country does not work effectively.

When you look at advanced wastewater treatment and the kinds of esoteric technologies that are being introduced, well, —these have not yet been proven even in smallscale plants. Most of them are technologies developed to work on a laboratory scale, certainly not for millions of gallons a day! Yet these types of treatment are being "scaled up." But besides these problems, and the problem of chlorine that we have discussed, there is an incredible waste of resources in the system. Thirty to forty percent of all the water consumed in this country goes down the flush toilet. In the West and in other parts of the country, there are dire water shortages. We should attempt to conserve water instead of continuing to seek new sources.

By looking at some of these "in-house" or "non-

water" systems, we can save our water for other uses than carrying away our wastes. And we should learn to consider the sludge that accumulates at the bottom end of a sewage system as a resource instead of something that is burned or buried in a landfill. The literature that discusses the benefits of organic fertilizers, as opposed to chemical fertilizers, is enormous. These benefits are well-documented in journals such as **Compost Science** and the **Environmental Action Bulletin** from the Rodale Press, as well as in the pre-1940's agriculture journals.

Another problem with water-based sewage systems is the fundamental misunderstanding of just how important water is in our living ecosystem. The engineers who have designed our sewage systems look at water as a one-way flow. They see water coming into a house, getting contaminated, carrying away wastes, getting treated, and finally getting discharged. And that's the end of it. But the hydrologic cycle, the water cycle, is much more complex. Water enters our bodies, gets contaminated, and goes to a treatment plant where it is discharged into our waterways. It becomes cloud. It condenses. It becomes rain and falls to the earth. It affects food production, is cleaned by the soils, and reenters the groundwater table. And then it is pumped up for drinking again. The problems we are encountering now are the result of our having dirtied too much water, cleaned it improperly, and pushed the cleansing capacity of our waterways beyond their limits.

We have polluted too much, and the contamination has come back in our face. As a society, we have grown too much, consumed too much, so that at this point, the ecosystem cannot absorb any more waste. And now the engineers are faced with the recognition that all matter, including wastes and water, flows in

water quality...

cycles, and they keep coming back, instead of just going away.

We are trying to point out that people across the country who are looking into land treatment alternatives and sewerless alternatives are doing two things. First, they are trying to return us to biological, chemical and physical realities. And second, they are asking us to try to **avoid** a waste disposal problem in the first place rather than searching for the expensive, energy-intensive, engineering solution.

6. Greywater

VER: Before we discuss alternative systems, could you say what is the difference between what is called "greywater" and "blackwater?"

ILSR: Greywater is the waste that comes from a household other than the waste that goes through a toilet. So the wastes from a bath, a washing machine, a dishwasher, these kinds of wastes, are referred to as greywater. The actual differences between greywater and blackwater could be explained in a very technical manner. We can say that about 37 percent of the pollution that is produced in a normal household comes from the toilet. Of course the toilet has more pathogenic bacteria and viruses in it. Greywater also has these contaminants, but to a lesser extent. In general, you can just say that greywater is cleaner than blackwater.

7. Alternatives

VER: Can you comment on the special problems of using sewerless alternatives in northern climates such as Vermont?

ILSR: Rather than launching into an extensive discussion of specific problems in Vermont, let us comment on one alternative that clearly would **not** work in a cold, northern climate, and then let us refer you

to a list of resource materials that will be printed at the end of the interview series. What is important to remember is that there is just an enormous amount of work going on across the country to develop and test alternatives.

The alternative of the "evapo-transpiration bed" that requires a lot of "plant uptake" clearly would not work in Vermont. Part of the problem is snow cover and cold weather. Another part of the problem is that the rate of rainfall in Vermont, 26-30 inches per year, exceeds the amount of evaporation, a rate which is estimated at 13 to 20 inches per year.

There is one point we want to emphasize. It is our position and that of many reputable engineers throughout the country, that drain fields coming from a septic tank can be made to work better. Whether you are talking about a single-family dwelling with an acre or two of land, or cluster homes, a septic tank with any kind of drain field that is designed to meet the specifications of a particular topography and particular soil conditions, can be made to work if these systems are properly constructed and maintained. There are engineering techniques available that deal with local soil conditions and local topography. Any short-term review of alternatives should include the option of improving septic systems. And this option is likely to be much, much cheaper than any kind of proposal from an engineering consultant firm for sewerage-up.

8. Reluctance

VER: Why hasn't the Federal Government tested, evaluated, and promoted alternatives to water-based treatment?

ILSR: Without being too specific, we can probably classify the reluctance of the Federal Government to move into alternatives in two ways. First, is the institutional lag and inertia that overtakes any large bureaucracy. After all, the existing water-based system is in place. There's been a tremendous amount of money and expertise built up around it. It's just easier to leave that intact, even with all its problems, than to jump into a new area.

The second explanation is more psychological. We Americans have been trained to think that what we should do with our waste is to get rid of it, just throw it down a chute, and we will never have to deal with it again. And people generally accept this notion. Americans believe that they enjoy the highest, the most civilized form of sanitation in this country and that the rest of the world should be brought up to their standards.

What we are finding is that this "throw-away" or "out-of-sight, out-of-mind" mentality is increasingly intolerable. We keep on flushing, we keep on disposing, but as we get rid of our wastes, we contaminate our food, air and water systems with chemicals. In New York City the sludge that was dumped into the ocean is literally backing up on our shores. So while it doesn't make sense to contaminate our drinking water, that's in fact what we have been taught as the best thing to do. We have come to accept this cycle: we purify our water, we contaminate it with our wastes, and then we attempt to re-purify it before we put it back into our bodies and our water systems. It just hasn't been working very well.

9. Run-offs

VER: Can you cite specific instances where storm run-off may have frustrated efforts at attacking the problem of water pollution in a given community?

ILSR: Yes. In the Occaquan Watershed in northern Virginia, this is a particularly acute problem.

But the question of "storm run-off" raises a related, and serious issue, known in the vocabulary of the trade as the "metals problem."

We have talked about the possibility of using human sludge on land. Well, the problems involved in this are compounded if human sludge is mixed with industrial waste and street run-off when there is contamination by esoteric metals. These metals, for example, can be absorbed by garden vegetables, or grasses fed to cattle. So we would all be better off if these sludges were not mixed.

Let us turn, however, to the general problem of storm run-off once again. In the studies we have seen in the District of Columbia area, the urban run-off contains the pesticides that people spray on all the bugs on their rose bushes, the fertilizers that people use to feed their lawns. Then there are people who change the oil in their cars and then dump the old oil down the storm systems. And all these contaminants go into the watershed untreated. The amount of this pollution is more than equal to the amount of pollution that goes through the ordinary sewer lines on the way to the plant for treatment. It's a serious problem. And the only way to curb any of these problems, the only institutional mechanism available, is "208" Planning. We want to emphasize strongly that we are far behind in efforts to curb these kinds of run-off pollutants.

In rural areas the run-off is from excess fertilization of agricultural lands and from feed lots. We don't suspect that you have great problems with pollution from feed lots in Vermont. The amount of contamination that goes into our waterways through percolation from fields is really gross. This again is where "208" Planning is the only institutional mechanism available for gaining any control over these problems.*

10. Industry

VER: Can you comment on ways that the nation's industries could play an enlarged role in attacking the problems of industrial waste and water pollution?

ILSR: It is very important that industrial waste be treated **before** it gets into the public waste streams. Right now, industries dump into our waterways and the public has to bear the cost of dealing with the contaminated wastes. Many cities, St. Paul, Minnesota, is one example, have an ordinance that requires all industries to treat their own wastes before these wastes are dumped into public waterways. We think this is a useful model.

* Vermont's "208" Planning effort is just getting underway. For further information, contact: Mr. Roger Allbee, Coordinator, Agency of Environmental Conservation, 5 Court Street, Montpelier, VT., 05602, or call, (802) 828-2741. (This series with the Institute for Local-Self-Reliance will be continued.)

ENVIRONMENTAL BILLS

As of January 7th, 1977, the following environmental bills had been introduced and formally assigned a number. Other environmental legislation is still being drafted and will be introduced at a later time. Future reports on the introduction of new bills and the disposition of environmental legislation in the Vermont House and Senate will appear in a weekly bulletin that is being sponsored by seven Vermont environmental groups. This bulletin is the 1977 Weekly Legislative Alert. VNRC members and others may subscribe to the Alert at a cost of \$5.00. To subscribe, please send a check for \$5.00, payable to "Legislative Alert" -- care of, VNRC, 26 State Street, Montpelier, Vermont, 05602.

<u>Number & Sponsor(s)</u>	<u>Purpose</u>
H. 8 (Carse)	To provide for the protection of the State's fragile areas; to establish a "Vermont Fragile Areas Advisory Committee"; to create a "State Register of Fragile Areas."
H. 10 (Kunin)	To consolidate the Highway Fund into the General Fund of the State.
H. 23 (Giard)	To provide a means by which agricultural districts may be established by owners of viable farmland, entitling them to protection from certain local regulations, eminent domain, and from certain taxes: for example, for sewer, water, or lights.
H. 45 (Bartholomew)	To prohibit the use of salt and chloride compounds on highways within the State, to take effect July 1, 1978.
H. 48 (Bartholomew & others)	To improve and protect the water quality of the State through a restriction on the sale and use of household detergents containing phosphorus.
H. 67 (Bonnett & others)	To require the Public Service Board to exclude all utility lobbyist expenses and publicity, advertising, and promotional expenses in determining a utility's rate of return.
H. 68 (Stanion & Bonnett)	To prohibit the inclusion of the cost of promotional advertising in electric rates.
H. 92 (Drew, Field & Stone)	To require the Public Service Board to regulate the storage of radioactive materials.
H. 93 (Field)	To regulate investments of public service companies in electrical generation facilities located outside the State.
H. 100 (Hamilton)	To encourage the use of solar and wind energy equipment by exempting sales of such equipment from property taxation, and by providing low interest loans from the Vermont Home Mortgage Guarantee Program for investment in such equipment.
H. 110 (Ennis & others)	To promote the conservation of gasoline through a system of registered "car-hopper drivers" who would carry insurance and who would be entitled to pick up riders at State-erected "car-hopper stops and shelters."
H. 126 (Baker & others)	To prohibit the sale of certain chlorofluorocarbon compounds in aerosol sprays.
H. 128 (Carse)	To provide for current use taxation of farmland and forest land.
H. 137 (Bonnett)	To increase the membership of the Public Service Board to five members and to provide for the election of those members by the General Assembly.
H. 154 (Colvin & others)	To protect scenic highways.
H. 155 (Mulligan)	To provide a resource recovery tax on containers sold at retail and to create an authority responsible for the disposition of solid waste in an efficient, healthy, and economic manner.

Environmental legislation: Senate Bills

- | | |
|----------------|--|
| S. 6 (Wallace) | To reimburse municipalities for one-half of the amount of property tax revenues lost as a result of tax stabilization contracts relating to agricultural lands with such reimbursement paid from the Property Tax Relief Trust Fund. |
| S. 13 (Gibb) | To provide a means by which agricultural districts may be established by owners of viable farmland, entitling them to protection from certain local regulations, eminent domain, and from certain taxes: for example, for sewer, water, or lights. |
| S. 18 (Ogden) | To repeal the joint legislative review committee on transportation planning, established in the 1975 adjourned Session. |
| S. 22 (Scott) | To make available to the public information concerning energy consumption and the energy efficiency of products sold in this State. |

VERMONT WILL INAUGURATE CLASSIFIED ADVERTISING SECTION WITH THE FEBRUARY, 1977 ISSUE

THE FOLLOWING IS THE TEXT OF A LETTER THAT WILL GO OUT TO PROSPECTIVE ADVERTISERS LATER THIS MONTH OVER THE SIGNATURE OF VNRC EXECUTIVE DIRECTOR, SEWARD WEBER. WE ARE PLEASED TO MAKE A MODEST START AT CLASSIFIED ADVERTISING IN THIS MONTH'S ISSUE WITH AN AD FROM SHELBURNE SPINNERS.

Beginning February, 1977, the Vermont Environmental Report, the monthly publication of the Vermont Natural Resources Council, will inaugurate a section of classified advertising, called, RESOURCES.

The Council has two purposes in inaugurating classified advertising. First, the Council feels that the Vermont Environmental Report has advanced to a point of credibility, appeal, and reader acceptance where it can begin to pay for part of the costs of getting out a first-class periodical. And second, the Council believes there are a number of advertisers, particularly in Vermont, who have products, services and opportunities they may wish to bring to the attention of the almost 2,000 environmentalists and public officials who read the monthly Report.

This is how the RESOURCES section will work.

Ads will be sold on the basis of 20 cents per word, with a minimum charge of \$5.00 per ad. This will be a uniform rate with no discounts or special arrangements. Advertising copy will be due by the first working day of each month in which the ad will appear. We will ask for payment in advance. Once the ads are received and accepted they will be set in 10-point type. Then they will be placed under appropriate classified headings such as "ANIMALS" -- "ARTS, CRAFTS & PHOTOS" -- "BOOKS & PUBLICATIONS" -- "CLASSES & COURSES" -- "FOR SALE" -- "REAL ESTATE" -- and "SERVICES". The object of the new classified section is to identify Vermont resources and call these resources to the attention of a Vermont environmental audience.

I would be happy to discuss your advertising needs or the Council's new advertising section. Enclosed here is a copy of a recent issue of the Vermont Environmental Report, a profile of the Council's current membership, and a Classified Advertisement Order Form.

We are confident that the RESOURCES section will be useful to advertisers and a source of helpful information to our readers.

Resources

INVENTORY CLEARANCE SALE -- Handspun 100 Percent Virgin Wool. Naturally-dyed for knitting, weaving and stitchery yarn. Up to 50 percent off until we run out! Stop by our shop at 2 Howard Street, Burlington. Open Wednesdays and Thursdays, 10 a.m. until 3 p.m., OR order by mail. Send \$2.00 for

samples, brochure, newsletter and further information on sale. Order from: **SHELBURNE SPINNERS, Box 651, -- NR, Burlington, Vermont, 05401.**

Bushnell Binoculars -- Three pairs left. Call: (802) 223-2328, or write: **VNRC, 26 State Street, Montpelier, VT., 05602.**

publications

UVM AGRICULTURE EXPERIMENT STATION PUBLISHES STUDY ON POSTING OF LAND

The University of Vermont Agricultural Experiment Station has published a 20-page study entitled, **The Posting of Privately-Owned Land in Vermont**. The UVM study is based on a survey and direct interviews with over 600 Vermont landowners. This survey reveals that, for the most part, posting of land is a response to specific acts of abuse and not a capricious phenomenon.

The report on posting also indicates that the "majority of landowners have only recently begun to post their land. Of all currently posted land, approximately 64.2 percent was posted within the last five years, and 83.6 percent within the last ten years. Of the posting that occurred in the last five years, 36.8 percent was initiated by landowners who acquired their land during the same five-year period."

WATERSHED COUNCIL PUBLISHES DISPLAY MAP

The Connecticut River Watershed Council with the assistance of a grant from the Howard & Bush Foundation of Hartford, Connecticut, has published a display map depicting the natural and cultural features of the Connecticut River Valley. This map was designed by the Nacul (Graphics) Center in Amherst, Massachusetts. It measures 38 inches high by 25 inches wide. It is available from the Connecticut River Watershed Council at a cost of \$3.00 (plus 50 cents postage) to Watershed Council members and \$5.00 (plus 50 cents postage) to non-members. This map may be obtained by writing the Connecticut River Watershed Council, 125 Coombs Road, Easthampton, Massachusetts, 01027.

Change of Address: Please save VNRC the cost of postal fees by notifying the Council of a change of address. Please send us your new address along with your old VER address label!!

VNRC

Non-Profit Org.
U.S. Postage
PAID
Montpelier, VT.
Permit No. 285

THIS ISSUE • JANUARY • 1977 • No. 59

Contents:

- Carl Reidel Calls for Leadership to End Neglect of Vermont's Forest Resource
- VER Publishes List of Environmental Bills Introduced in 1977 Legislature
- "Sewage Task Force" Discussion (2): Mounting Problems of Waste Disposal

ADDRESS CORRECTION REQUESTED

VERMONT NATURAL RESOURCES COUNCIL, 26 STATE STREET, MONTPELIER, VERMONT.